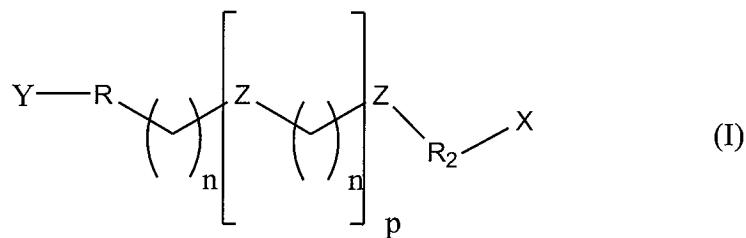
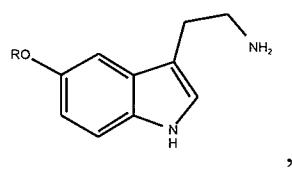


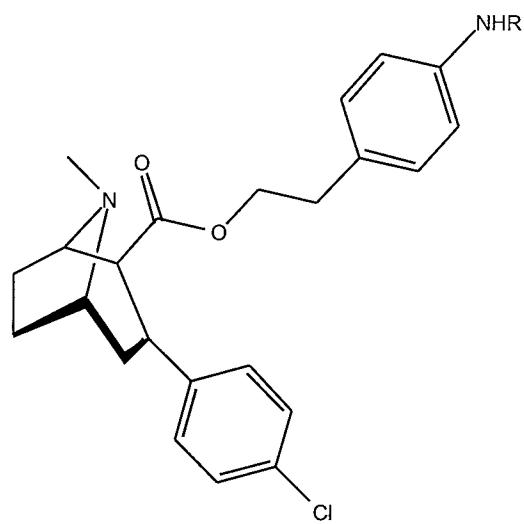
Claims 1-15 (Canceled).

Claim 16 (New). In combination, a semiconducting nanocrystal and a organic compound capable of bonding to a detectable substance, wherein the combination includes the following formula:

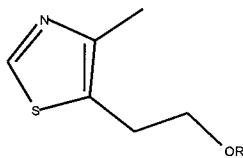


wherein n and p are independently 0 or an integer from 1 to 10, and each Z is independently O, CH<sub>2</sub>, or NH, with at least one Z being O; and wherein Y represents a nanocrystal and X is chosen from the following compounds and derivatives thereof capable of bonding to a detectable substance:

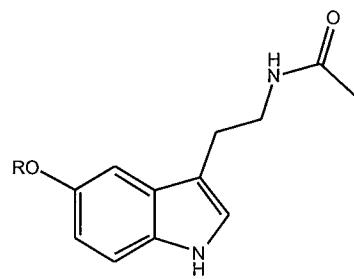




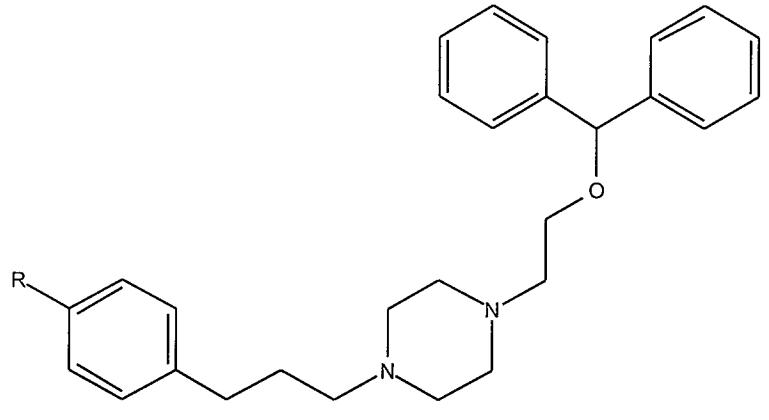
,



,



, and



wherein R represents the attachment point to R<sub>2</sub>;

R is a bond or is selected from the group consisting of:

SH,

O(CH<sub>2(n)</sub>O)<sub>n</sub>SH,

NH(CH<sub>2(n)</sub>O)<sub>n</sub>SH,

NH(CH<sub>2(n)</sub>NH)SH,

S(CH<sub>2(n)</sub>O)<sub>n</sub>SH, and

S(CH<sub>2(n)</sub>S)SH; n is 1-10, with S being attached to the nanocrystal;

R<sub>2</sub> is a bond or selected from the group consisting of

carbonyl,

NH, SH,

CONH,

COO,

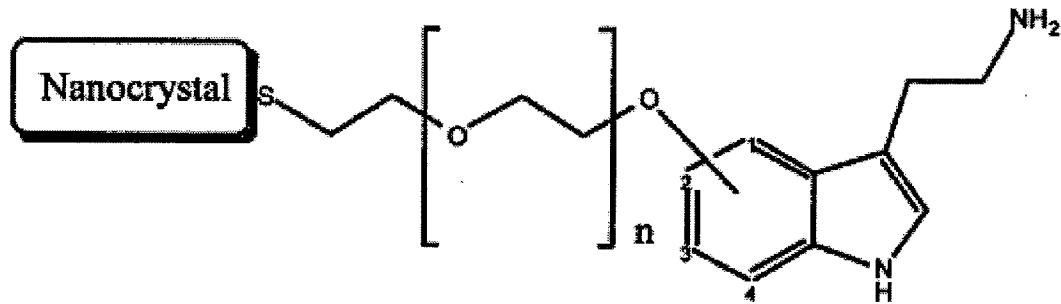
S,

C<sub>1-10</sub> alkyl,

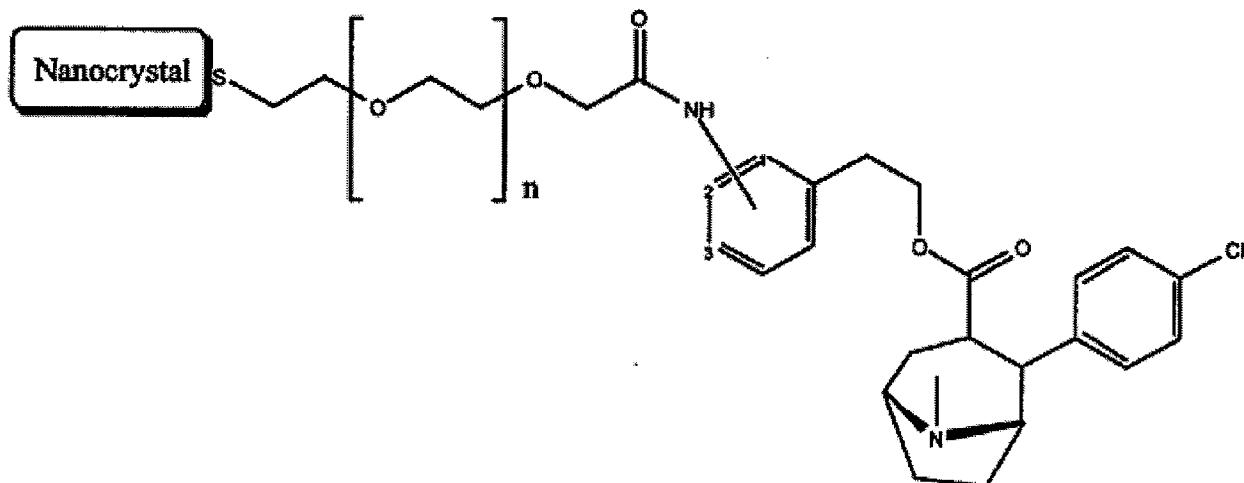
carbamate, and thiocarbamate; and wherein

when n and p are 1 or more, the resulting carbon or carbon chain may be substituted.

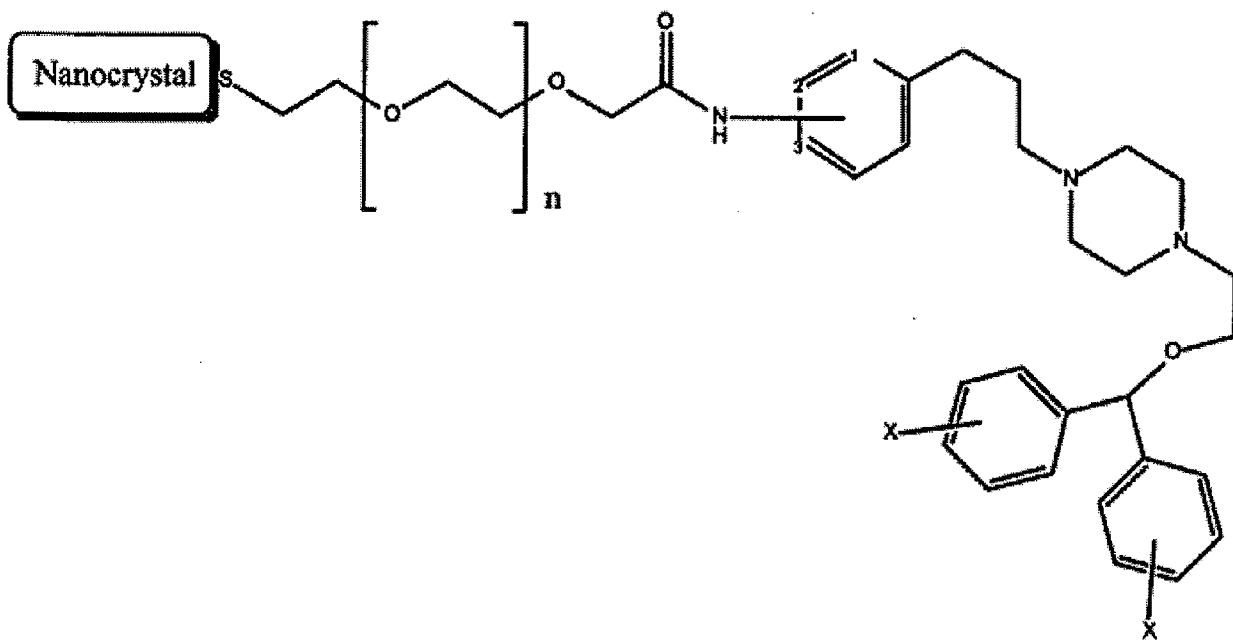
Claim 17 (New) The combination of claim 16, comprising a formula chosen from:



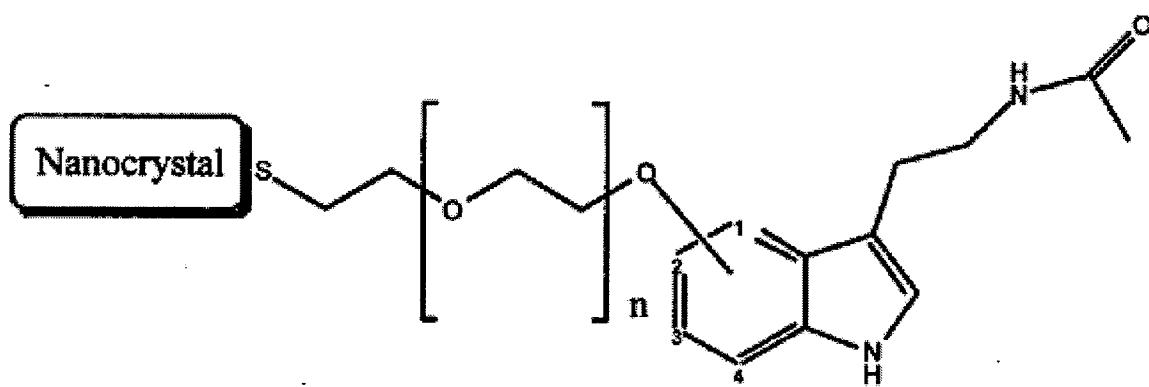
(II)



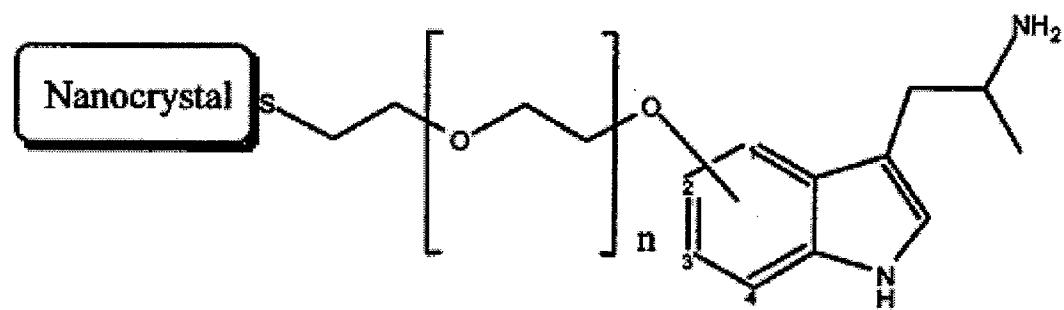
(III)



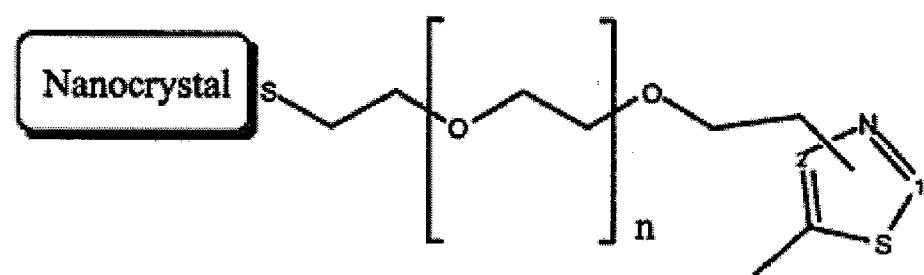
(IV)



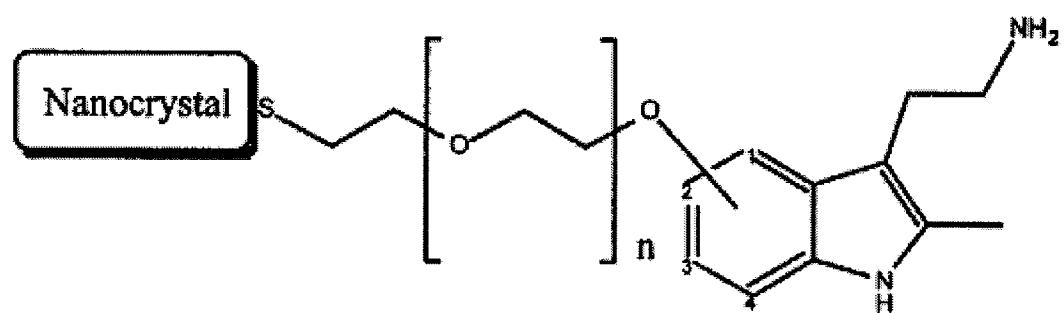
(V)



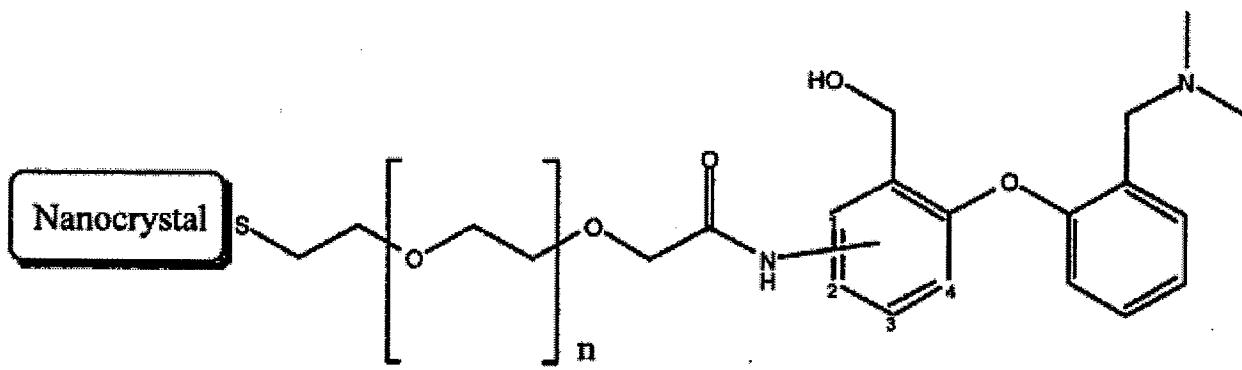
(VII)



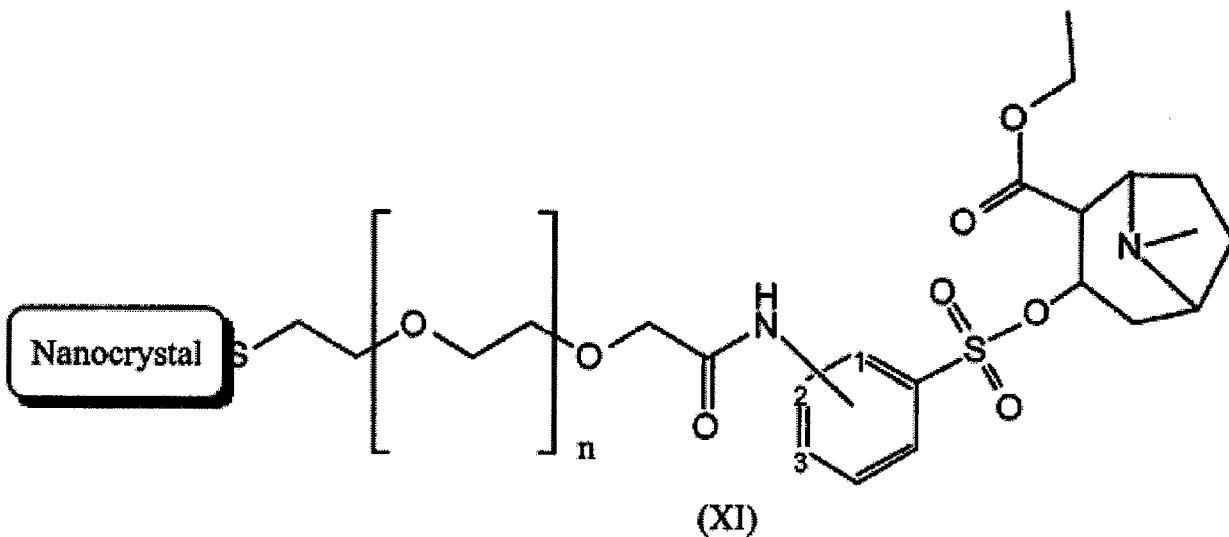
(VI)



(X)

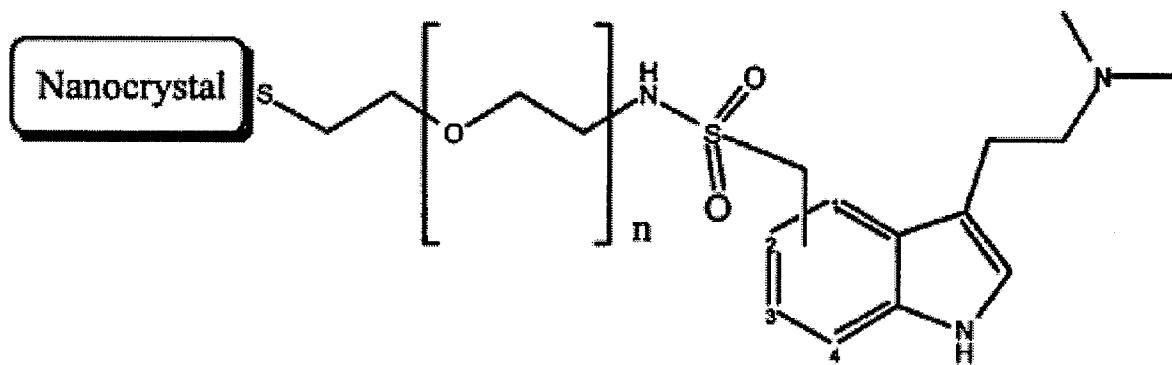


(XII)



(XI)

and



**(XIII)**

wherein  $n = 0-10$  and  $X$  is H or halogen.

Claim 18 (New). The nanocrystal compound of claim 16, wherein the nanocrystal has a cross section of less than about 200 angstroms.

Claim 19 (New). The compound of claim 16, wherein the nanocrystal is selected from the group consisting of CdSe, CdS, PbSe, PbS, and CdTe nanocrystals.